CHAPTER 6: LANDSCAPE ARCHITECTURE

A. Key Components + Objectives

A primary objective of the Northwest Quadrant is to establish a sustainable community that is integrated with the natural environment. The Design Standards serves as a guide to site development that outlines methods that can be used to take advantage of the site's natural resources while mitigating the impacts of development to the land.

Several of the key components that form the basis of the plan include:

Open Space

Open space is essential to enhancing the quality-of-life of residents of the Northwest Quadrant and the public in the Santa Fe region. Open space can be any area within or outside of residential boundaries that provides an opportunity for preservation, relaxation and/or recreation. Although recreational opportunities within a community may be quite different than those provided by the surrounding natural areas, they are both equally important.

The Northwest Quadrant provides its residents with both of these opportunities. The natural landscape provides an opportunity to enhance the quality of the development. The City's commitment to regional public open space is evident by the quality and quantity of dedicated open space (see Figure 3-4: Parks and Open Space). Access from various areas of the site to the regional open space will be provided by a system of hiking trails, bike trails, and pathways. The open space system also accommodates linkages to open space outside of the Master Plan area including the remaining 2230 acres in the Northwest Quadrant.

The Northwest Quadrant has three broad categories of Open Space:

- Preserved Open Space
- Community Parks
- Neighborhood Parks

Interior Open Space Network

The character of the land in the Northwest Quadrant lends itself to the creation of an open space network that will provide opportunities for pedestrian connections among the various land uses on the site. The natural arroyo system and ridgeline will provide the framework for the open space network and will connect with other areas of the site that will not be developed due to natural or manmade conditions. Trails will be placed in some of these corridors to provide the community with natural area access and to encourage pedestrian and bicycle circulation around the property.

The Northwest Quadrant Master Plan designates approximately 418 acres for the preservation of open space and development of parks. This acreage represents approximately 76% of the site. The Master Plan accommodates projected needs for recreational facilities, including neighborhood parks and community parks. A hiking and biking trail system that is regionally accessible, will be woven through the community. This interior, on- and offroad circulation system will also provide important connections between various areas and land uses on the site, including neighborhoods, mixed-use centers, retail and commercial services, parks and plazas. Bicycle facilities including bike lanes, routes, and trails will further reinforce the multi-modal circulation system by being integrated into the street and trail network.

Using the NWQ Design Standards:

Intent

overarching purpose and vision

Standard

minimum requirement for all design and construction

Guideline

desired goal for exceptional construction

Objectives for the interior open space network include providing the community with regional natural area access. Areas that are environmentally sensitive are intended to have controlled access to allow for the protection and/ or rehabilitation of natural and cultural resources. Management practices will link interior open space areas with the community and regional activity centers. A comprehensive interior open space, walkway and trail network will be connected these centers. It is also an objective of the open space management program in the Northwest Quadrant to link this interior interconnected open space system to offsite recreational opportunities.

Image 6 - 1: The landscapes of the built environment should function as an extension of the open space system that surrounds the Northwest Quadrant.



One of the most important objectives at the Northwest Quadrant is to protect the character of the land and preserve the unique sense of place. Preservation and integration of native vegetation and materials throughout the entire site will be critical to achieving this objective. Using native vegetation will also provide opportunities for habitat enhancement and reduce the water requirements for landscaping in developed areas. Given the scale and phased implementation of the Northwest Quadrant, a detailed landscape plan indicating the location of specific plant material is not practical.

However, developers must adhere to the following principles:

- Re-vegetation of disturbed areas is required;
- Building envelopes will be used on all large residential lots to minimize disturbance and maintain and preserve existing vegetation;
- Plant choices must conform to the plant palette in the Design Standards, except for interior walled areas;
- Exotic ornamental plants are prohibited, except in predetermined areas (backyards, courtyards, etc.), due to the potentially invasive nature of some species and the environmental benefits of the use of native plant species as a dominant component of the developed landscape;
- The use of harvested stormwater runoff in both passive and active systems, as a principle means of irrigation is strongly encouraged;
- Site landscape must be approved by the Design Review Committee and installed prior to building occupancy;
- Irrigation systems may be designed to accommodate the use of nonpotable water and be temporary where feasible, and
- Detailed landscape plans will accompany each site development application to the NWQ DRC.

During development in the Northwest Ouadrant, an effort will be made to repair and restore disturbed land as quickly as possible. Landscape design solutions will be carefully considered for their long-term water requirements balanced with the need to stabilize the soils on the site. In some situations where disturbed land is at the perimeter of the development or adjacent to open space, special seed mixtures and installation methods may be required to restore the land to its natural plant densities and diversities. Where possible, passive rainwater harvesting techniques will be utilized to provide a means for stormwater infiltration and primary irrigation. Where necessary, a drip irrigation system will be designed and installed to minimize evaporation and runoff while providing supplemental water to the native landscape.

A more detailed discussion of the native plant palette and irrigation systems is included later in this chapter.

Image 6 - 2: The landscaping of the Northwest Quadrant will aim to be an extension of the natural context around it. The use of native plants and materials is highly recommended in the Design Standards.



B. Universal Standards

1. Xeriscaping to Conserve Water

Using the NWQ Design Standards: All information in Chapter 6, Section B: <u>Landscape Architecture, Universal</u> <u>Standards</u>, represents a

Standard

minimum requirement for all design and construction

The diversity of land uses and product types in the Northwest Quadrant creates a need for a variety of landscape concepts that enhance the human environment, are considerate of water conservation needs and principles, and provide for habitat opportunities. While the specific scope and scale of landscape efforts will vary between the land uses allowed within the Northwest Quadrant, within all of these areas the basic principals and water conserving concepts of xeriscape landscapes will be followed.

There are seven principles associated with xeriscape landscapes:

- Planning and Design;
- Soil Improvement;
- Appropriate Plant Selection;
- Practical Turf Areas;
- Efficient Irrigation;
- · Mulching Techniques, and
- Appropriate Maintenance.

Traditional xeriscape zoning concepts will be used throughout the Master Plan area consistent with the design principals of low water use landscapes and the planning goals and environmental objectives of the Northwest Quadrant Master Plan.

The three principal xeriscape zones are as follows:

Zone 1 - Oasis Zone

This zone includes fully enclosed residential yards within approved building envelopes and unenclosed areas immediately adjacent to some commercial and residential structures. Landscaping within this zone shall not be restricted except for limitations imposed by the Restricted Species List provided in the Northwest Quadrant Design Standards. While active rainwater harvesting techniques should be the primary source of irrigation water, installation of a permanent irrigation system may be required. Passive rainwater harvesting techniques are encouraged where landscaping is a minimum of ten feet from structure foundations.

Zone 2 - Transition Zone

This area is transitional between the Oasis Zone and the Xeric Zone and includes highly visible locations such as residential landscapes slightly removed from the structure, driveway entrances, roadway medians, parking areas, public common areas, etc. Within the Transition Zone, plants will be utilized that may require occasional watering after establishment to maintain a healthy, aesthetically acceptable appearance. While active rainwater harvesting techniques should be the primary source of irrigation water, installation of a permanent irrigation system may be required. Passive rainwater harvesting techniques are encouraged where landscaping is a minimum of ten feet from structure foundations. The plant palette for this zone will be restricted. A specific list of appropriate plant species for this zone is provided in the Northwest Quadrant Design Standards.

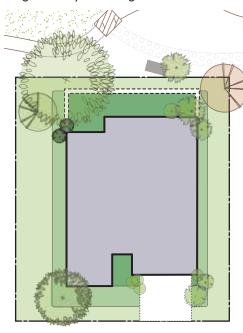
Zone 3 - Xeric Zone

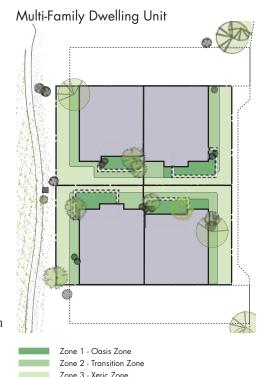
This zone will include the remainder of the property that is not incorporated into the Oasis and Transition zones. Landscaping efforts within this zone will generally be limited to habitat restoration efforts and the plant palette will be restricted to plant species indigenous to

the Northwest Quadrant. A temporary irrigation system or "dry water" system may be required. Passive rainwater harvesting should be the primary source of irrigation water.

Figure 6-1: LANDSCAPE ZONE DIAGRAMS

Single Family Dwelling Unit





Water Conservation Definitions:

Potable Water - Potable water refers to all water safe for human consumption. This water will be used for sinks, showers, dishwashers, washing machines and fountains.

Gray Water - Gray water in the Northwest Quadrant refers to water collected from bathroom sinks, tubs, and showers. All residences will be dual plumbed to reuse gray water in landscaped areas.

Black Water - Black water refers to any water from toilets or urinals. All black water in the Northwest Quadrant will be sent to the City of Santa Fe Wastewater Treatment Facility for primary, secondary and tertiary treatment and returned to the Santa Fe River to flow into the Rio Grande. In the pilot 'off-grid' residential areas, black water will be sent to a community constructed wetlands, treated to a tertiary level and reused for flushing toilets within the 'off-grid' area and irrigating landscaped areas.

Reclaimed Water - Reclaimed water is the effluent that is generated from the wastewater treatment plant. It meets tertiary treatment standards and is not intended for human consumption.

Storm Water - Stormwater refers to water which results from storm runoff and snowmelt. It can result in flooding and the transfer of water pollutants. It should be mitigated through collection and control while being treated as a sustainable, valuable natural resource. Collection and control processes should include rainwater harvesting of irrigation and infiltration through the use of Low Impact Development techniques.

Ground Water - Ground water is water found in saturated layers below the earth's surface.

Raw Water - Raw water is untreated water.

2. Water Conservation, Collection + Reuse

Water is the most precious natural resource in New Mexico and the American West. Using water resources responsibly directly impacts the economic and environmental health of the state and region. It is the goal of the Northwest Quadrant to provide a model of community development which utilizes the most progressive techniques in water conservation technology and practices, water collection and water reuse. Careful planning and thoughtful design can demonstrate that water conservation is possible without sacrificing lifestyle choices.

Water Collection and Reuse Stormwater Collection

Stormwater or rainwater catchment systems provide a source of soft, high-quality water, reduce reliance on other water sources, and are cost-effective. Rainwater quality almost always exceeds that of ground or surface waters; it does not come into contact with soil and rocks where it dissolves salts and minerals, and is not subject to many of the pollutants that often are discharged in to surface waters such as rivers.

- All residences in the Northwest Quadrant shall collect rainwater in a cistern. Because composite asphalt and some painted roofs could leach toxic materials in to rainwater, stainless steel, covered steel, photovoltaics and other nonleaching materials are the required roof materials.
- All gutters should have a screen or wire basket at the head of the downspout to keep leaves and other debris from entering the system.
- Gutters and downspouts must be properly sized, sloped, and installed in order to maximize the amount of harvested rain.

• For roof areas exceeding 1,000 sf, larger sections of gutters and downspouts shall be fabricated from galvanized steel or the roof area shall be divided in to several guttered zones. Downspouts should be sized to handle 1.25 inches of rainfall during a ten-minute period.

Gray Water Reuse

Gray water reuse systems provide a cost effective source of water for landscape irrigation. To maintain a level of water quality for healthy plants, homeowners should use biodegradable and environmentally friendly soap products and take care to avoid putting hazardous wastes into the gray water system.

- All residences in the Northwest
 Quadrant shall be dual plumbed to
 be able to divert gray water from at
 least one shower/tub and bathroom
 sink to a landscaped area. Discharge
 amount may not exceed 250 gallons/
 day.
- The gray water distribution system must be designed and/or installed by a licensed plumber to ensure that local codes are met and that the system functions properly.
- Gray water should be used to irrigate landscaped areas below the surface and may only be used on the site it is generated. Surface discharge or ponding is not permitted.

Image 6 - 3: Water collection systems can help to lower the lifetime water use of the project as well as create aesthetically pleasing pathways.



Irrigation

Irrigation is encouraged, but not required. When installed, irrigation must meet the following standards.

Drip irrigation is the frequent, low pressure application of small amounts of water to the soil area directly surrounding the plant roots. A constant level of soil moisture is maintained, even though up to 60% less water than conventional water is used by this method. The efficiency and uniformity of a low water flow rate reduces evaporation, run-off, and deep percolation. After the initial growth period of five to seven years, irrigation for Zone 3 (Xeric Zone) will not be allowed. Water conserving irrigation practices are outlined below:

- Water-conserving irrigation systems, including automated rain sensors and programmable irrigation controllers, should be used to provide 100% coverage to all irrigated areas, with appropriate zone separation of landscape areas with differing water needs
- Where irrigation is provided, dual plumbing for gray water reuse is required.
- A pressure vacuum breaker or an approved backflow preventer is required for all residential irrigation.
- An electric, solid state controller is required for all systems and shall be equipped with a master valve terminal and at least two fully independent programs.
- In no case shall irrigation heads throw water directly into a foundation structure, parking lot, sign face, roadway, attached sidewalk, or walkway.
- A mulch, bark or rock area at least eight inches wide adjacent to sidewalks and curbs will help eliminate water waste.

- All turf within public right of ways shall be approved native grasses.

 Check for leaks in all pipes, hoses and faucets to prevent water waste.

 Do not irrigate from May to August between the hours of 10:00 am to 5:00 pm to avoid evaporative loss.
- Reclaimed water will be utilized for landscape areas in the public rights-of-way to the maximum extent practicable, and irrigation systems should be designed for adaptation to reclaimed water, if not available at the time of installation. Rain gardens and other methods of passive water harvesting techniques are encouraged as a primary source of irrigation for landscaped areas in the public rights-of-way.
- Spray heads and rotors will be utilized where necessary in large landscaped areas. Spray irrigation systems will be designed so that water is confined to landscaped areas, avoiding overspray. Spray heads will be of the pop-up type. Timers should limit use of irrigation to the early morning or evening hours.
- Bubblers and drip irrigation systems will be used for street trees and elsewhere to encourage deep-rooted plantings. Drip emitters will be used to deliver water directly to plant materials.

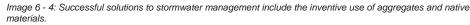
Water Features

Water features that utilize effluent are allowed but not required. Water features must be appropriately designed and integrated into existing conditions. Decorative fountains and fountains using potable water are prohibited.

Mulching

Mulching is required to help newly planted landscape materials retain moisture and establish healthy root systems and to reduce weeds.

- Install a mulch ring at the base of each canopy and ornamental tree. At the time of planting, the ring must have at least a 2-foot radius, measured from the center of the tree trunk. This mulch ring must be of organic material and be a depth of 2 inches minimum.
- Place all shrubs and perennial plants in mulched beds.





3. Grading + Drainage

The concept of grading and drainage in the Northwest Quadrant centers on encouraging on-site stormwater infiltration, providing safe and efficient drainage and allowing for the passage of the fifty- and one hundred-year flood events. Water harvesting /stormwater management techniques will be utilized to reuse this precious resource in sensitively designed conveyance systems to allow for as much infiltration on site as possible. Existing drainage easements and arroyos shall be preserved and enhanced so they blend into the community and serve as open space and landscape amenities.

The Master Developer (MD) will be responsible for submitting a stormwater runoff plan for approval as part of the Development Plan application. At a minimum, the plan will identify practices to treat, store and infiltrate runoff on-site before it affects water bodies downstream. The plan will include innovative site designs that reduce imperviousness and smaller-scale low impact development practices dispersed throughout the site, in order to achieve flow reductions and improve water quality.

As outlined by the Clean Water Act, the project will conform to the EPA's National Pollutant Discharge Elimination System (NPDES) permit program. It is the MD's responsibility to apply to the EPA for a Construction General Permit (CGP).

Contractors shall implement EPA's Best Management Practices for erosion and sedimentation control during construction to prevent erosion from site construction.

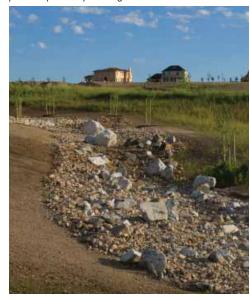
A sediment and erosion control plan shall • be designed to:

 Prevent loss of soil during construction by stormwater runoff and/or wind erosion, including

- protecting topsoil by stockpiling for reuse.
- Prevent sedimentation of storm sewer or receiving streams.
- Prevent polluting the air with dust and particulate matter.
- Drainage Systems shall be protected to maintain all weather vehicular access on public streets and drives.
- Adjoining properties and developments shall be protected from flooding. No surface runoff will be allowed to enter other properties except in common areas, public rights-of-way and other similar situations as approved by the City.
- Drain water away from buildings.
- Set finish floor elevations according to federal and local flood requirements.
- Rain gardens shall be set back a minimum of ten feet from structure foundations.
- Low Impact Development stormwater techniques shall be utilized as practicable to mimic natural hydraulics.
- Paved curbed outlets used to drain developed parcels to exterior streets are to be designed to blend with streetscape and, where possible, be used as walkways.
- Builders must incorporate the water harvesting program engineered for the NWQ into the drainage and water conservation programs when developing adjacent open space.
- The drainage plan for the neighborhood or tract must conform to the Northwest Quadrant Master Drainage Plan and be approved by the DRC and the City of Santa Fe.
- Conventional grading and drainage concepts for Builder Tracts are in general, appropriate for the Northwest Quadrant.
- Use of solid masonry or concrete footing stem walls may be required to minimize lot grading and to preserve natural landforms especially adjacent to open space.

- Builders are responsible for conducting soils analysis for determining construction suitability and methods.
- Minimize erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.
- Where possible, preserve significant and unique natural landforms or drainage areas as they exist and enhance drainage areas with riparian plantings and native grasses to stabilize banks.
- Locate trails to provide pedestrian access to significant natural features.
- Design floorplans and foundations to reflect the site topography.
- Split level plans, terracing, and decks can help integrate built features into site conditions and minimize the cost and effects of grading.
- Building orientation on an east-west axis with glass area minimized on walls with maximum solar exposure will decrease energy demands for cooling, particularly when combined with proper placement of shade producing plants.

Image 6 - 5: Gently sloping swales along the side of roads provide space for passive groundwater infiltration.



4. Habitat Enhancement

The very nature of land development alters landscape and habitat characteristics with potentially adverse impacts to wildlife. These impacts can be minimized and compensated for in a variety of ways. In the Northwest Quadrant, the preservation of open space areas and their associated habitats within the planning area has been one of the primary objectives of the master planning process. The Northwest Quadrant Master Plan preserves significant portions of the property as natural open space. Protected areas include the interconnected, interior open space areas within developed portions of the property.

Open space preservation efforts will be augmented with targeted programs to offset the impacts of development activities and to further integrate the natural and built environments. These programs are discussed below.

Landscaping with Native Vegetation

An extensive native plant palette will be used to ensure that landscapes within the development are similar in composition to adjacent undisturbed habitats and other native habitats in the region. Within the urban landscape the use of native trees and shrubs at significantly greater densities than naturally occur on the property will create a habitat that is structurally more diverse and productive for certain wildlife species.

Within numerous habitat types within the Southwest there is a strong correlation between the total amount of perennial woody vegetation and the density of native territorial breeding birds. The goal of the landscape plans developed for the Northwest Quadrant will be to substantially increase the total volume of native trees and shrubs over the current condition. In keeping with the overall water conservation objectives of the project, whenever feasible, irrigation for these native trees and

shrubs will utilize reclaimed water and or water captured through water harvesting. Planting plans will strictly adhere to xeriscape conservation objectives.

Riparian/Wetland Habitat Creation The Northwest Quadrant does not currently contain mesoriparian, hydroriparian, or wetland habitat types. In conjunction with water conservation strategies planned for this project, beneficial land application may provide opportunities to create riparian and wetland habitats. These habitat types have been demonstrated time and again to support greater diversities and densities of wildlife than any other habitat type in the arid Southwest. Excess reclaimed water may be used within the project area to achieve disposal obligations, provide for significant enhancement of on-site habitat values, and provide unique educational opportunities for the students and residents.

Other opportunities will exist as site development plans are refined and water harvesting/stormwater management programs are integrated to enhance xeroriparian habitat values in the Northwest Quadrant. These opportunities will present themselves during the engineering design of naturalistic arroyo treatments to control runoff and reverse currently degrading conditions that occur in some locations on the property. Opportunities will also exist within detention/retention facilities that are constructed within developed portions of the property to limit peak stormwater discharges to the levels that currently exist on the property. Properly integrated, the stormwater management program for the Northwest Quadrant will utilize the increased volumes of runoff with structural improvements that are sensitive to the landscape in order to significantly increase the productivity of xeroriparian habitats associated with the arroyo systems that traverse the site.

5. Cultural Resource Management

The occurrence and distribution of prehistoric cultural sites at the Northwest Quadrant has been used to help guide the establishment of open space and conservation areas. The developers of the Northwest Quadrant will work closely with the State Historic Preservation Office and Tesuque Pueblo (as the representative for local Native American groups) to develop appropriate strategies to mitigate unavoidable impacts to cultural resources within the project area.

Image 6 - 6: The rugged, natural integrity of the land will be preserved in the open space areas, to allow natural systems to continue.



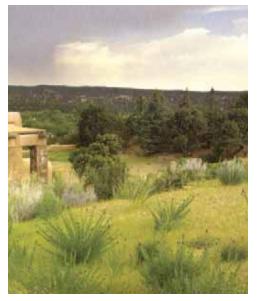
6. Tree Preservation

Existing trees within open space zones will be protected. Grading or any disruption of the soil will not be permitted within the dripline of these trees nor should drainage patterns be altered in such a way as to threaten their future viability.

Existing trees within Parks and Very Low Density Residential Zones should be preserved to the greatest extent possible. Protection fencing around the trees to be preserved should be installed during construction and periodic watering should be provided to ensure the trees live. See additional requirements in Chapter 8.

To the extent practical, protected trees that die or are severely damaged and cannot be restored to original condition should be replaced by trees of the same type.

Image 6 - 7: Public areas will be maintained by either the City of the Homeowner's Association.



7. Planting Practices + Methods

The conditions for planting in Santa Fe inherently limit what can grow and survive here. Irrigation is necessary for plants to survive, especially to establish root structure in early years. Plant locations should be planned in water harvesting swales to capture and hold water.

Orientation to the sun is a very important factor when locating plants. Different plants have different microclimate requirements and prefer more or less shade and moisture and different soil types.

All plants considered should be hardy to USDA Zone 5.

Plant Quality

Plant materials will be of premium quality and planted according to best practices and methods, utilizing automated irrigation systems, root barriers where adjacent to pavement, staking and well-aerated, fertile, well-drained soils.

Pruning

Trees will be pruned, as required, after planting to promote good structure and to reduce wind load. Street trees will be pruned within two years so that the branching begins at six feet above grade and continue to be limbed up (only in conditions where the structure of the tree is not disfigured) until the lowest branch is at a maintained height of 10 feet above grade. Any branching over vehicular lanes will be pruned to 14 feet above grade.

Replacement Planting

Successional plantings will be undertaken to replace trees and other plant materials as they age and decline over time.

Integrated Pest Management

All pest and weed management will use organic chemicals or alternative environmentally appropriate methods, consistent with recommendations of the City of Santa Fe.

Food Production Gardens

Prior to planting food production gardens, agricultural soil suitability testing is encouraged but not required. Soil testing is helpful to determine the need for soil amendments, import, special drainage requirements and fertilization. Samples can be sent to New Mexico State University laboratories (or equal) for comprehensive reports on soil makeup and suggested amendments.

Fertilization

If soils are not suitable for planting, recommendations of a soil scientist should be followed to support the long-term health and viability of the plantings. The use of water absorbent polymers should be considered, along with locally engineered soils where appropriate, as a means of increasing soil water-holding capabilities.

Heat Island Effect

The presence of trees and the selection of paving materials within a community can reduce the urban heat island effect, minimizing the impact on microclimate, human and wildlife habitat, and required energy for cooling.

For public open spaces within the project:

- Provide shade and/or use lightcolored/high albedo materials with a reflectance of at least 0.3 and/or open grid pavement for at least 30% of non-roof impervious surfaces, including streets, parking lots, walkways, plazas, etc.
- Place a minimum of 1 street tree for every 20 continuous parking spaces to provide shade.
- Use an open-grid pavement system within parking areas to increase stormwater infiltration while reducing the overall heat gain.

8. Landscape Maintenance

Landscape maintenance of the parks, trails and open space system within the Northwest Quadrant will be through a combination of public and private entities (*see Chapter 3:B-5*). Landscape maintenance of the streetscape landscapes, the Linear Park and the Frank Ortiz Dog Park within the Northwest Quadrant community will be funded and maintained by the City of Santa Fe. The remaining landscape areas will be privately maintained by other entities as follows:

Developer's + Builder's Responsibility
The Master Developer is responsible for irrigation and general maintenance of trees, shrubs, and other plant materials that are planted within the street right of way for the first two years.

Builders shall be responsible for irrigating and maintaining on-lot landscaping and unattended plant materials until homes are sold.

Homeowner's Responsibility

Homeowners are responsible for irrigating and maintaining trees, shrubs, and other plant materials that are planted within their property boundary.

The Homeowner's Association

The HOA shall be responsible for maintaining landscaping and surfaces of Neighborhood Parks, Community Plazas, Pocket Parks, community gardens, streetscape planting within common open space areas, and minor trails. The HOA shall also be responsible for irrigation and general maintenance of the landscaping in the planting strip within the public right-of-way adjacent to the lot after an initial two years of maintenance by the developer.

Land Trust

The Master Developer will place all open space areas in a conservation easement to be managed by a land trust. The Trust will be responsible for assuring that the HOA maintains and preserves these public open space areas. This includes maintaining trail systems within these areas.

City of Santa Fe Responsibility

The City of Santa Fe shall be responsible for irrigation and general maintenance of plant material and surfaces located within the right-of-way of Collector and Sub-Collector Streets, designated Community Parks (Frank Ortiz Dog Park and Ridge Line Park), and trails that traverse these City-owned areas.

9. On-Lot Landscapes

Planting standards for on-lot residential landscapes are provided to help complement the broad mix of housing types within the community and reinforce the neighborhood character through front yard planting design standards.

- Front area on-lot landscapes shall be installed upfront prior to issuance of Certificate of Occupancy.
- Trees, shrubs, hedges and groundcover should be massed to define outdoor spaces, reinforce the primary entry, and enhance the house design, the street, and the neighborhood.
- Front yard landscapes must be mulched and irrigated with a properly designed sub-surface, drip irrigation system.

- Spray irrigation systems must not be used within 5' of building foundations.
- 1 ornamental front yard tree is required per lot.
- Rain gardens are encouraged for onlot landscapes.
- No lawn spaces are allowed within the front yard landscape.
- Lawns are only allowed for Medium density lots (600 square foot area maximum) and Low density lots (800 square foot area maximum).
 The lawn seed mix is designated in the plant list.
- Medium and Low density lots are required to have 15% shrub coverage within front yard landscapes. High density lots are required to have 10% shrub coverage within front yard landscapes.

- Medium and Low density lots are required to have 20% perennials and groundcover coverage within front yard landscapes. High Density lots are required to have 15% perennial and groundcover coverage within front yard landscapes.
- Planting schemes for front yard landscapes should provide seasonal color and foliage interest throughout the year.

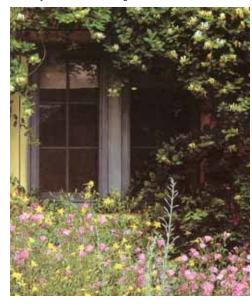
Image 6 - 8: Individual homeowner's will be able to utilize their own landscaping strategy, however they must abide by the HOA's overall guidelines.



Image 6 - 9: Lush vegetation is recommended along the street edge of all street types.



Image 6 - 10: Individual homeowner's will be able to utilize their own landscaping strategy, however they must abide by the HOA's overall guidelines.



10. Public Art

Santa Fe is recognized internationally as a creative art community with a rich history of art as fundamental to its culture. This legacy should be reflected in the neighborhoods and public spaces of the Northwest Quadrant. The residential and mixed-use neighborhoods have been designed as a "Cohesive Urban Art Environment" within which many works of traditional and contemporary art will be expressed to enhance the Northwest Quadrant community. Artwork will be encouraged to be visually beautiful, intellectually stimulating, and respectful of the environment.

Public art may be profound, help tell the story of its place, or simply be an enjoyable aspect of community life. Public artwork can be provocative, subversive, critical, beautiful, serene and sublime. Although it is unique to each instance, it should relate to its physical or cultural context.

- All public visible art work and placement must be reviewed and approved by the NWQ-DRC to ensure it is in keeping with the overall image of the Northwest Quadrant and does not lead to visual chaos.
- All landlords shall include language addressing artwork and visual chaos (as defined by the NWQ-DRC) to assure each tenant recognizes the authority of the NWQ-DRC to regulate public visible art.
- The art and cultural community should be part of the public art

process.

- The NWQ-DRC will develop the definition of an Art "Piece" for the NWQ. The definition will allow and encourage art that is vital, lively and experimental, including cinema, sculpture, painting, audio art, soils art, music, guerilla art, art theatre, etc.
- Art is to be limited in number and scale of pieces, with only one 2-dimensional or 3-dimensional Art "Piece" allowed per façade (or tenant) of a building.
- Temporary or permanent exterior art may include sculptures, paving, art site furnishings, signage, or building wide murals.
- Where required by code, city building permits must be acquired prior to the installation of the art.
- Temporary artwork must be easily removable, limited in time (2 years maximum) and must adhere to public safety requirements. Tenantowners will maintain the artwork and be responsible for safety and security issues.
- (monuments, memorials, or art installations) are to be added to the Linear Park, Plaza, Pocket Parks or Open Spaces. However, permanent art site furnishings, artful landscape design and planting additions, and temporary art performance pieces (such as music or theatre) are allowed in these areas of the NWQ subject to approval by the NWQ-DRC.

11. Environmental Education

Among other responsibilities, the Northwest Quadrant Master Developer, or an entity appointed by the Master Developer, in conjunction with the HOA will provide environmental education in the Northwest Quadrant (see Chapter 3:B-5). This program will include new resident and property owner orientation to the Design Standards, guidance in the use and care of native plant materials, familiarization with water conservation and recycling measures, instruction on food production gardens, and education on co-existing with wildlife.

Utilizing the open space in the Northwest Quadrant as a "living laboratory," it is also anticipated that the Northwest Quadrant Master Developer in conjunction with the HOA will provide interpretive programs for residents, school children, and other visitors from Santa Fe and the surrounding community. The Master Developer will transition the coordination of environmental education activities in the Northwest Quadrant to another entity such as the HOA before construction is complete.

CHAPTER 6: LANDSCAPE ARCHITECTURE

C. Open Space

Overview

There are three broad categories of open space in the Northwest Quadrant: the Open Space Preserve, Community Parks, and Neighborhood Parks.

The Open Space Preserve includes the arroyo corridors, the escarpment, and all the remaining open space areas. Community parks include the Ridge Line Park, the Frank Ortiz Dog Park, and the Community Plaza. Neighborhood parks include the neighborhood parks at the heart of each neighborhood, community gardens, and pocket parks.

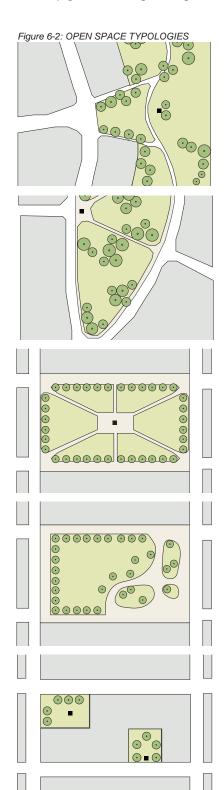
Open Space Preserve: A natural preserve available for unstructured recreation. The open space preserve is independent of surrounding building frontages and makes up the remainder of the open space. Its landscape shall consist of limited paths and trails naturalistically disposed, grassland meadows, landscape features, and arroyo corridors. The minimum size shall be 15 acres.

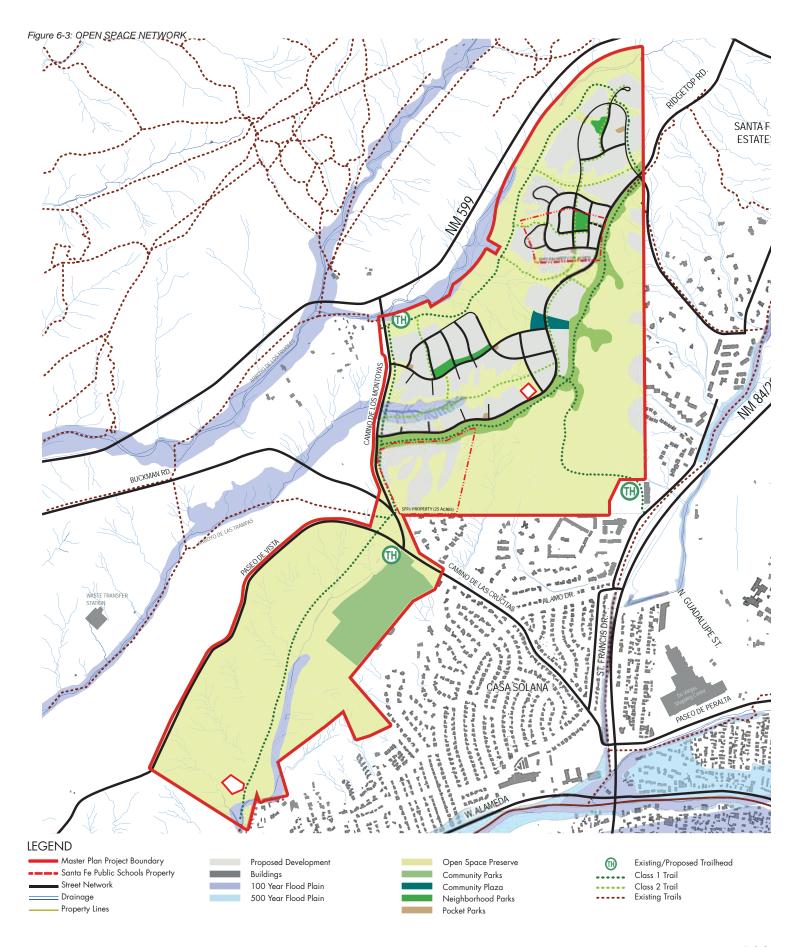
Community Park: An open space, available for unstructured recreation. A community park may be spatially defined by landscaping rather than building frontages. Its landscape shall consist of paths and trails, trees and open shelters naturalistically disposed. Community parks may be lineal, following trajectories of natural corridors. The minimum size shall be 15 acres.

Community Plaza: An open space available for unstructured recreation and civic purposes. A plaza is spatially defined by building frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Plazas shall be located at the intersection of important thoroughfares. The minimum size shall be 1 acre and the maximum shall be 5 acres.

Neighborhood Park: An open space, available for civic purposes and commercial activities. A neighborhood park shall be spatially defined by building frontages and located at the center of each neighborhood. Its character should be unique from the other neighborhood parks and reflect the character of the surrounding neighborhood. Its landscape shall consist of pavement and landscaping. The minimum size shall be 1 acre and the maximum shall be 2 acres.

Pocket Park: An open space designed and equipped for unstructured play for the recreation of children. A pocket park shall be fenced and may include an open shelter. Pocket parks shall be interspersed within residential areas and may be placed within a block. Pocket parks may be included within parks and greens. There shall be no minimum or maximum size.





1. Open Space Preserve

Arroyo Corridors, Escarpment District Areas, Preserved Open Space

Intent

Open space preserves allow for unstructured recreational opportunities. These areas retain and enhance the look, feel, and ecology of the surrounding environment. Only limited recreational development is allowed.

Standards

- Open space preserves may only contain minimal path and trail development.
- Trails and pathways within the open space preserves must be constructed of permeable materials. Impermeable materials will not be allowed.
- Areas of disturbance created through the development of pathways and trails must be appropriately revegetated.
- Trails and pathways must be designed to provide continuous, unobstructed access to the larger City of Santa Fe trail system.

- Provide stormwater management techniques that will reduce runoff.
 Runoff shall be passively harvested in open space where possible.
- Trailheads must be located to provide access to as many users in the surrounding neighborhoods as possible.
- Trailheads must be designed to reduce negative environmental impacts resulting from construction.
- The construction of site walls for erosion and drainage purposes is prohibited.
- The following amenities are permitted within the eligible open space preserve area:
 - Public art (refer to Public Art section of this Chapter).
 - Seating areas along trail pathways.

Guidelines

As public amenities, trails and pathways should be designed to be easily accessible for as many users as possible. Consider grade conditions to minimize steep slopes. Trails should also be designed to enhance the experience with the preserved open space.

- Trails should be oriented to take advantage of views.
- Careful consideration should be given to the location of trails to preserve existing trees.
- Carefully consider the color selection of paving materials. Lighter, more muted colors will blend better with the surrounding landscape.
- Public art should be integrated within the surrounding landscape, relating to the environmental and cultural qualities of the region.

Image 6 - 11: An extensive trail system will be integrated within the neighborhoods of the Northwest Quadrant and beyond to adjacent neighborhoods.



2. Community Parks

Large parks and Open Space

Intent

Regionally scaled parks and other public spaces are active and vibrant places for the community. They are flexible to accommodate formal and informal events as well as large and small-scale uses.

Standards

- All design standards for parks and open space shall apply to areas between right-of-way and park boundaries.
- Walks must provide continuous unobstructed access along the full length of the right-of-way.
- Litter receptacles shall be provided at a minimum of 4 cubic feet of capacity per 500 linear feet of park distance.
- There shall be a minimum of one linear foot of seating for every 30 square feet of paved surface within community gathering areas.
- Seating must have a minimum depth of 16 inches. Seating 30 inches or more in depth may count double, provided there is access to both sides.
- Surfaces higher than 30 inches or less than 12 inches shall not count toward meeting the seating requirements.

- The tops of walls, including those for planters and fountains, may be counted toward meeting the seating requirements, provided they meet the dimensional requirements above and are not obstructed by foliage.
- One tree must be provided for every 625 square feet of park up to 2,500 square feet. One additional tree is required for each additional 1,000 square feet of park. No less than 25 percent or more than 90 percent of the park area shall be utilized for planted landscaping.
- Paving materials shall be high quality, durable materials such as concrete, stone or concrete unit pavers. Permeable pavers and porous pavements are encouraged in large parks and open space where paving is required. Paving is subject to approval by the NWQ-DRC.
- Rain gardens and other passive rainwater harvesting techniques are encouraged in large parks and open space areas.
- The following amenities are permitted within the eligible park area:
 - Public art (refer to Public Art section).
 - Landmark art piece in a visible area on the ridge.
 - Shade structure for use as a community gathering area.

Guidelines

As public amenities, parks should be designed to be easily accessible and comfortable throughout as much of the year as possible. Consider climate conditions with the design of the park. For example, provide visitors options to sit in shaded or sunny areas, orient gathering areas to receive breezes from prevailing winds, etc.

- Parks should be oriented to take advantage of views.
- Carefully consider the color selection of paving materials. Lighter colors are more reflective and may contribute to excessive brightness without a balanced amount of shade or contrast.
- Careful consideration should be given to the scale of the park space. Gathering spaces within parks should be designed to accommodate small-group interaction as well as public events. Intimate spaces and pedestrian-scale details within a larger park will help pedestrians feel welcome even when there is not a large event gathering.
- Public art should be integrated with the park design where possible.
 Design must be of high quality and complementary to the surrounding areas.

Image 6 - 12: Community parks will provide safe and friendly meeting places for residents of the Northwest Quadrant.



Image 6 - 13: Integrated public art features may serve as focal points or places of respite within parks and open spaces.



3. Community Plaza

Central Community Plaza

Intent

A central plaza to the entire Northwest Quadrant community will be an active and vibrant place at the crossroads of major street connectors. The plaza is where large community events occur it and connects users to the open space system through pathways and vistas. The plaza can be a series of terraces cascading down the hill to provide gathering spaces much like the "Spanish Steps" commonly seen in Rome.

Standards

- All design standards for parks and open space shall apply to areas between building-face and right-ofway area.
- Plazas and adjacent recreational areas must connect to other community amenities and open space trail networks.
- Main circulation pathways within community plazas shall be a minimum of 6' wide, constructed of durable materials, and ADA accessible.
- Large scaled gathering areas within the plaza shall be primarily pavement. Permeable pavement materials are encouraged.
- No less than 25% or more than 70% of the community plaza shall be utilized for planted landscaping.
- There shall be at least one linear foot of seating for every 30 square feet of plaza space.
- Recreational areas must be flexible to accommodate a wide range of users and activities. The use of prefabricated play equipment is discouraged in this zone.

- Paving shall be of high quality, durable materials. Being the central plaza for the entire community, the space requires a greater level of richness in materials and detail from other open space zones.
- Litter receptacles shall be provided at a minimum of 4 cubic feet of capacity per 800 square feet of open plaza space.
- The following amenities are permitted within the community plaza space:
 - Ornamental fountains. Fountain design shall consider non-use tie appearance as well as decorative water effects.
 - Food or retail kiosks, such as newsstands or coffee stands. These are not to exceed 100 square feet in area per kiosk, or more than 30% of the total plaza area in the food service spaces.
 - Public art (refer to Public Art section).
 - Arbors and trellises.
 - Educational gardens.
 - Outdoor amphitheater.
 - Cultural/Interpretive exhibits.

Guidelines

As public amenities, plazas should be designed to be easily accessible and comfortable throughout much of the year as possible. Consider climate conditions with the design of the park. For example, provide visitors options to sit in shaded or sunny areas, orient gathering areas to receive breezes from prevailing winds, etc.

- Orient gathering spaces to take advantage of views.
- Gathering spaces within parks should be designed to accommodate small group and large group events. Intimate spaces and pedestrian scale details within the plaza will help visitors feel welcome even when there is not a large scale event.
- Carefully consider the color selection of paving materials. Lighter colors are more reflective and may contribute to excessive brightness without a balanced amount of shade or contrast.
- Public art should be integrated with the park design. Design of art must be high quality and complementary to the surrounding environment.
- Site flexible recreational areas away from public gathering spaces and vehicular corridors to avoid user conflicts.

Image 6 - 14: The central plaza for the Northwest Quadrant will be able to provide destination retail and activities for residents and visitors of Santa Fe.



4. Neighborhood Parks

Parks, Community Gardens, and Medium Scaled Recreational Areas

Intent

Neighborhood scaled parks and other community gathering spaces are social and active open spaces within the discreet neighborhoods of the entire the community. The parks are central to the neighborhoods they serve and the design responds to the unique qualities of each.

Standards

- All design standards for parks and open space shall apply to areas between building-face and right-ofway area.
- Parks and recreational areas must connect to other activities and community amenities such as mixeduse areas and the open space trail network.
- Main circulation pathways within neighborhood parks shall be a minimum of 6' wide and constructed of durable materials.
- Community lawn spaces within neighborhood parks shall be no less than 1,000 square feet and no more than 5,000 square feet of area.
- Specific recreational areas based upon established age groups (2-4 year, 5-8 year, and 9-12+year) must be provided for within the neighborhood parks whenever possible.
- No less than 25% or more than 70% of the neighborhood parks shall be utilized for planted landscaping.
- There shall be at least one linear foot of seating for every 30 square feet of recreational area within neighborhood parks.

- Litter receptacles shall be provided at a minimum of 4 cubic feet of capacity per 800 square feet of open park space.
- Paving materials shall be high quality and made of durable materials.
 Permeable materials are encouraged whenever possible.
- Rain gardens and other passive rainwater harvesting techniques are encouraged in neighborhood parks.
- The following amenities are permitted within the neighborhood parks:
 - Public art.
 - Community gardens.
 - Arbors and trellises.
 - Outdoor amphitheater.

Guidelines

As public amenities, parks should be designed to be easily accessible and comfortable throughout as much of the year as possible. Consider climate conditions with the design of the park. For example, provide visitors options to sit in shaded or sunny areas, orient gathering areas to receive breezes from prevailing winds, etc.

- Parks should be oriented to take advantage of views.
- Careful consideration should be given to the scale of the park space. Gathering spaces within parks should be designed to accommodate small-group interaction as well as public events. Intimate spaces and pedestrian-scale details within a neighborhood park will help pedestrians feel welcome even when there is not a large event gathering.
- Carefully consider the color selection of paving materials. Lighter colors are more reflective and may contribute to excessive brightness without a balanced amount of shade or contrast.
- Public art should be integrated with the park design where possible.
 Design must be of high quality and complementary to the surrounding areas.
- Recreational zones within the neighborhood parks need to be sited on flat sites that have slopes less than 5%.
- Recreational zones shall be oriented away from adjacent vehicular corridors.

Image 6 - 15: Play structures will be constructed to allow play for children of all ages.



5. Pocket Parks

Neighborhood Greens, and Child Recreational Areas

Intent

Small recreational areas with defined boundaries which serve the recreational needs of children. They are secure, and positioned within neighborhood blocks off busy streets.

Standards

- All design standards for pocket parks and open space shall apply to areas between building-face and right-ofway area.
- Pocket parks and child recreational areas must have more than one pedestrian connection from block edges to the park for ease of connectivity.
- Main circulation pathways within neighborhood parks shall be a minimum of 6' wide and constructed of durable materials.
- Community lawn spaces within neighborhood parks shall be no less than 1,000 square feet and no more than 3,000 square feet of area.
- Specific recreational areas based upon established age groups (2-4 year, 5-8 year, and 9-12+year) must be provided for within the pocket parks whenever possible.
- Image 6 16: Smaller play structures may be provided within neighborhood greens or pocket parks.



- No less than 25% or more than 60% of the neighborhood parks shall be utilized for planted landscaping.
- There shall be at least one linear foot of seating for every 30 square feet of recreational area within pocket parks.
- Litter receptacles shall be provided at a minimum of 4 cubic feet of capacity per 800 square feet of open park space.
- Paving materials shall be high quality and made of durable materials.
 Permeable materials are encouraged whenever possible.
- Rain gardens and other passive rainwater harvesting techniques are encouraged in pocket parks.
- The following amenities are permitted within the pocket parks:
 - Interactive public art.
 - Educational displays and gardens.
 - Arbors and trellises.
 - Decorative paving treatments within central gathering spaces.
 - Murals and pavement art.

Guidelines

As public amenities, parks should be designed to be easily accessible and comfortable throughout as much of the year as possible. Consider climate conditions with the design of the park. For example, provide visitors options to sit in shaded or sunny areas, orient gathering areas to receive breezes from prevailing winds, etc.

- Pocket parks should be oriented to take advantage of views.
- Careful consideration should be given to the scale of the park space.
 Gathering spaces within pocket parks should be designed to accommodate small-group interaction as well as larger-groups.
- Carefully consider the color selection of paving materials. Lighter colors are more reflective and may contribute to excessive brightness without a balanced amount of shade or contrast.
- Public art should be integrated with the park design where possible, and be of an interactive nature to engage children of various age groups.
 Design must be of high quality and complementary to the surrounding areas.
- Recreational zones within the active recreation parks need to be sited on flat sites that have slopes less than 5%.
- Recreational zones shall be oriented away from adjacent vehicular corridors.
- Ensure ease of visibility throughout the pocket park so that guardians can monitor children safety within the pocket park.

D. Trail Network

Intent

Provide an interconnected trail system that connects to public spaces, connects the communities within the Northwest Quadrant, and connects to major trail systems on the perimeter of the property.

Include sidewalks or suitable pathways within a multifamily property or single-family subdivision linking residential development internally and externally to public spaces, open spaces, and adjacent development.

Standards

- Developers of neighborhood parcels are responsible for connecting walkways within the parcels to the community walkway system.
- Where possible, walkways will be located and aligned to maximize views of surrounding natural features and community open space.
- Curved walkways will be designed as sweeping curves that create visually appealing landscape forms. Abrupt or irregular curves and jogs should be avoided.
- All walkways within single-family projects and neighborhood focus parcels will be a minimum of 4 feet wide.
- All walkways will be handicapped accessible. Where site or development conditions make full handicap access infeasible, an alternative handicapped route must be designed.
- Curb drops will be uniformly constructed to city specifications wherever a walkway crosses a curb.
- Curb drops shall be located in the center of the street crosswalk.
- Curb drops occur as a natural extensions of the walkway, allowing pedestrians to pass from a walkway, down a ramp and onto a street crossing without deviating from the direction of the walkway or crossing.

Accessible Walkway Standards

Handicap access is to be provided at a primary entrance to all public buildings. All walkways must conform to City of Santa Fe regulations and constructed in accordance with all applicable standard specifications. Consult the International Building Code and Americans with Disabilities Act Standards for complete requirements.

Grade

It is preferred that walkways not exceed continuous grades over 3%. Walkways with sustained grades in excess of 5% are considered ramps and will have level areas at least 5 feet in length approximately every 100 feet.

Surface

Walkways shall have a continuous common surface, not interrupted by steps or abrupt changes in level exceeding 1/2 inch. The walk surface shall have a non-slip surface such as a broom finish.

Doors and Gates

Walkways shall be provided with a level area not less than 5 feet square at a door or gate that swings toward the walkways, and not less than 3 feet deep at a door or gate that does not swing toward the walk.

Cross Slope

Surface cross slopes shall not exceed 1/4 inch per foot (2%).

Drainage

All drainage structures will be flush with the surface in which they occur. To the extent possible, walkways will be free of gratings. Where they are used, grid openings in gates shall be 1/2 inch maximum, with 1/4 inch preferred, in the direction of traffic flow.

Multi-Modal Path Systems

- Path systems can be incorporated with utility maintenance access roads, secondary emergency routes and fire break lines.
- Minimum 12 feet wide trail.
- Minimum 8 to 10 feet clearance.
- In center areas, one deciduous tree shall be planted for every 30 linear feet of path.

Bicycle Systems

Class 1 - Path: trail or path physically separated from roadways as well as pedestrian walkways with minimal crossflow by motorists.

- Minimum 10 feet wide trail
- Minimum 8 to 10 feet clearance
- Enhance native vegetation and install xeric shrubs at intersections.
- Use specialty paving or strip intersections with pedestrian and vehicular circulation routes.

Class 2 - Lane: designated bike lanes separated from adjacent motor vehicle traffic by separate lanes or striping

- Minimum 6 feet wide lane, excluding gutter pan.
- Clear signage designating lane.
- Stripe pavement to separate vehicular traffic from bicycle traffic.
- Use speciality paving or strip intersections with pedestrian and vehicular circulation routes.

Class 3 - Route: designated bike route where motorists and bicycles share traffic lanes.

- Clear signage designating route.
- Create links between bicycle paths and lanes.

Best Practices

- Separate bike traffic from motorized vehicular traffic where possible.
- Separate bicycle and pedestrian traffic where possible.
- Provide parking for bicycles near building entries, parking lots, and transit stops.

Pedestrian Systems

- Separate bike traffic from motorized vehicular traffic where possible.
- Separate bicycle and pedestrian traffic where possible.
- Provide parking for bicycles near building entries, parking lots, and transit stops.

Primary Pedestrian Corridor

- Place primary corridors within a minimum 50 feet wide pedestrian corridor easement.
- Provide a paved width of 8 to 12 feet, with 12 feet being the preferred width
- Design primary corridors as primary emergency or fire access route, provide a minimum of 20 feet clear horizontal zone and maintain a 16 foot vertical clearance above the corridor paving.
- Design primary corridors as primary emergency access and utility corridors.
- Where a corridor is designed as an emergency or fire access route, provide a minimum 20 feet clear horizontal zone and maintain a 16 foot vertical clearance above the corridor paving.
- Use specialty paving on primary corridor intersection nodes.
- Light corridors for safe nighttime use
- Design corridors with amenities to include seating, signage, trash receptacles, safety alarms, landscaping, bicycle furnishings, etc.
- Design corridors to meet city standards for accessibility.

Secondary Pedestrian Corridor

- Place secondary corridors within a minimum 30 feet wide pedestrian corridor easement.
- Provide a minimum paved width of 6 feet for secondary corridors.
- Design corridors with amenities to include seating, signage, trash receptacles, exterior safety alarms, landscaping, bicycle furnishings, etc.
- Design corridors to meet city standards for accessibility.

Trails

- Trail alignments can serve as firebreaks, utility maintenance access and secondary emergency access.
 Trails related to these accesses shall be 10 feet wide.
- The type of trail surface is selected based on the ability to maintain the trail surface and its frequency of use.
- Design corridors to meet city standards for accessibility.

Trailheads

Currently, there is one trailhead proposed within the Northwest Quadrant, which will be located off of Camino de los Montoyas just south of the arroyo abutting Highway 599. Due to its regionally accessible location and projected use, this trailhead will be maintained by the City of Santa Fe and will provide the following services and amenities:

- Accessible parking
- ADA accessibility
- Bicycle racks
- Lighting
- Permanent or portable restroom accommodations
- Seating
- Trail information and signage
- Waste receptacles

E. Streetscapes

Intent

The streetscapes in the Northwest Quadrant help establish the identity of the community and the distinct neighborhoods within the community (see Chapter 3:B-3). An effort has been made to scale the streets and establish setbacks to provide an intimate, pedestrian friendly, and functional street network that links residential neighborhoods with mixed-use areas, the open space trail network, and the main street core.

An appropriate mix of residential, office, retail and civic uses will help enliven the streets and encourage a pedestrian oriented community. Active ground floor uses that spill out onto public space areas will energize the street, promote the sense of community, and provide citizens a place to connect with one another.

Street furniture, street trees, and other amenities are intended to unify the public rights-of-way with a character distinct to each neighborhood. Furnishings add variety and identity to the streetscape, and trees provide shade for pedestrians and serve as a buffer to automobile traffic. Trees also serve as a method to mitigate the heat-island effect experienced in many urban areas.

Street Trees

Standards

- Street tree and shrub selection for each neighborhood will conform to the approved NWQ Plant List (see Section G in this chapter).
- Development and approval of a streetscape planting plan is required prior to installation.
- Street trees shall be evenly spaced 30 to 35 feet as measured from the center except adjacent to open space areas or parks, where street trees should be informally placed and grouped.
- The same species of tree shall be installed along both sides of any street and placed at a consistent distance from the curb except adjacent to open space areas or parks, where street trees species should match or complement open space or parks tree species.
- Where there is a landscape strip between the sidewalk and back of curb, trees shall be centered in the strip. Where there is a landscape strip, seeding shall not be installed in areas less than 35 square feet, or less than 5 feet in width.
- Street trees, furnishings, and other amenities shall not block a 10' wide (minimum) clear pedestrian zone or make maintenance of a clear walking surface (such as snow removal) difficult.
- Trees shall be a minimum of 2 1/2" caliper, but a recommended 4" caliper at the time of installation.
- Trees shall be installed in at-grade planters no less than 16 square feet. Where trees are installed in tree grates, a continuous tree trench should be used in order to provide the best possible conditions.
- Protection of existing trees and their root systems are required through the use of barricades and fencing.

 The use of tree boxes, rain gardens and other low impact development techniques is encouraged for irrigation and stormwater infiltration

Guidelines

• Where trees are installed in tree grates in the neighborhood center area, a continuous tree trench with structural soils should be used in order to provide the best possible growing conditions.

Image 6 - 17: Larger collector roads within the Northwest Quadrant should provide a sense of safety for bicyclists and pedestrians.



CHAPTER 6: LANDSCAPE ARCHITECTURE

F. Materials + Site Furnishings

1. Introduction

The primary objective regarding the selection of paving materials and site furnishings within the Northwest Quadrant is to establish a strong, cohesive aesthetic throughout the community. In addition, selections should be guided by maximizing sustainable standards such as using recycled materials, locally found materials and local resources. Following are guidelines for specifying paving materials for open space area and specific site furnishing selections for various neighborhoods.

2. Paving Materials

Paving materials will provide the physical connections between people and open space areas. It is important that the appropriate paving material is specified based upon location, number of users, and for continuity throughout the Northwest Quadrant. Care should be taken to install durable materials that require minimal maintenance.

Guidelines

- Plain gray concrete shall be the primary paving material on most walks on the site.
- Permeable paving materials such as crusher fines, permeable pavers, and porous pavements should be utilized in the open space zones, parking lots, and wherever possible to increase infiltration of stormwater on site.
- Accent paving materials such as brick, integral colored concrete, and unit pavers should be utilized whenever possible in the plaza neighborhood parks to add visual interest and texture. The color palette should harmonize with natural materials found on the site.
- Refer to Section 'D'Trail Network, for information regarding recommended trail materials.

Image 6 - 18: Materials should be used thoughtfully, as even functional elements of the environment may prove to become aesthetically pleasing.



3. Site Furnishings

Site furnishings offer the human amenities of a site - places to sit, get a drink of water, gather as a community, catch a bus and wayfind. The site wide use of site furnishings can do much to unify and enhance the visual quality in the Northwest Quadrant. Following are specified furnishings for elements commonly needed throughout the development.

Benches

- Locate benches in shaded areas when possible.
- Install benches on paved surfaces and provide a clear access to the seating area to avoid conflicts between pedestrians and bench users.
- Benches should be a minimum of 6 ft. long and comprised of durable materials.

Litter Receptacles

- Receptacles should be freestanding, a minimum of 32 gallon size, and of steel construction.
- Secure receptacles to the ground in open areas.
- Provide internal plastic liners to facilitate trash collection.
- Receptacles of the same style shall be the same color within an area.
- Receptacles shall be a neutral color.

Table 6-1: PROPOSED SITE FURNISHINGS

Site Furniture Benches	Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Standard Metal Bench Type 'A' Model: Park View Bench Manufacturer: All Outdoor Benches		•					•
Standard Metal Bench Type 'B' Model: FBF-50 Manufacturer: Victor Stanley, Inc.	•		•	•	•	•	
Bench - Art piece	•	•	•	•	•	•	•
Litter Receptacles Standard Metal Receptacle Model: NSDC-36 Manufacturer: Victor Stanley, Inc.	•		•	•	•	•	
Standard Concrete Manufacturer: Materials, Inc.		•					•
Litter Receptacle - Art piece	•	•	•	•	•	•	•

Picnic Tables

- Locate picnic tables by shaded areas whenever possible.
- Install picnic tables on a paved surface and provide access to avoid conflicts with other pedestrians.
- Tables shall be made of either concrete or steel for long term durability.
- Tables shall be of a neutral color that will reflect heat.

Bicycle Racks

- Locate bicycle racks near building entrances.
- Install bicycle racks on level surfaces.
- Bicycle racks should be placed to avoid conflicts with other pedestrians.
- Bicycle racks shall be of a neutral color, and coordinate with benches and litter receptacles in the same area.

Bollards

- Standard spacing shall be 6 ft. on center.
- Bollards should be able to withstand minor vehicle impacts.
- Provide removable bollards where emergency access may be needed.
- Light bollards should be louvered to direct light downward.
- Coordinate bollard color with other site furnishings in the same area.

Table 6-1: PROPOSED SITE FURNISHINGS (continued) Site Furniture Picnic Table	Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Standard Concrete Picnic Table Model: M154-1181 Manufacturer: Picnic Table Source		•					•
Standard Metal Picnic Table * Model: ENPTBL-PS-PS-6-F-P Manufacturer: Creative Pipe *embedded			•	•	•	•	
Bicycle Rack Standard Metal Bicycle Rack Model: Bike Rack 83 Manufacturer: DuMor, Inc.	•	•	•	•	•	•	•
Bollards Standard Steel Bollard* Model: CBR-6-RB-SS-F Manufacturer: Creative Pipe *embedded	•		•	•	•	•	
Standard Concrete Bollard Manufacturer: Materials Inc.		•					•
Standard Lighting Bollard Model: Notch LED Bollard Manufacturer: Se'Lux USA	•	•	•	•	•	•	•

Tree Grates

- Tree grates shall be of cast iron, black color, and a minimum of 5 ft. in width with a minimum 12 inch tree trunk opening.
- Grate slots shall be heel safe in high traffic areas.

Masonry Landscape Walls

Walls are to compliment surrounding • structures.

- Screen parking areas with minimum 3 ft. high masonry walls.
- Masonry walls and seat walls may be used to create amenity areas next to buildings and in open space centers.

Site Signage

- Directional signage shall be simple forms constructed of metal.
- Interpretive signage shall be developed with trails and open space.

All signs to be coordinated through a site-wide sign program specific to the site.

Outdoor Planter

- In public areas, moveable planters as shown can be used for traffic or access control for temporary or seasonal activities.
- Planters shall be located out of high traffic areas.

Table 6-1: PROPOSED SITE FURNISHINGS (continued) Site Furniture Tree Grates		Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Standard Tree Grate Model: Fan Manufacturer: Urban Accessories	Aman	•	•	•	•	•	•	•
Walls				I	I	I	I	
Masonry Landscape Wall		•	•	•	•	•	•	•
Signage								
Directional Signage	◆ Mall District	•	•	•	•	•	•	•
Interpretive Signage		•	•	•	•	•	•	•
Outdoor Planter				•		•	•	
Standard Outdoor Planter		•					•	

Bus Shelter

- Unique bus shelters should be designed to become community icons.
- Shelters need to provide seating, night lighting, and a schedule board.

Shade Structure / Arbor / Pergola

 Shade structures should be custom fabricated in metal, simple in form and located in high use areas.

Lighting

- All outdoor lighting shall adhere to New Mexico Night Sky Ordinances.
- Standard street lights shall be Cobra Head Fixtures with solar panel units.
- Pedestrian lights shall be poles with simple fixtures.
- High Intensity Discharge or metal hallide lights are not allowed.
- Low Level accent lighting opportunities can be explored in civic plaza spaces, commercial areas with after hour uses, and discrete open spaces to highlight pedestrian corridors.

Table 6-1: PROPOSED SITE FURNISHINGS (continued) Site Furniture Bus Shelter	Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Bus Shelter - Art piece		•	•	•	•	•	•
Shade Structure Shade Structure / Arbor / Pergola	•	•	•	•	•	•	•
Lighting Standard Street Lighting Model: Sonne Manufacturer: Se'Lux USA	•	•	•	•	•	•	•
Standard Pedestrian Lighting Model: Heritage Bounce, BNS1 Manufacturer: Kim Lighting		•	•	•	•	•	•
Accent Lighting		•	•	•	•	•	•

G. Plant List

An extensive native plant palette is included to ensure that landscapes within the development are consistent with the aesthetic of the Master Plan, water conservation objectives, and wildlife enhancement goals. Use of a plant palette that is dominated by native plants will establish a sense of place for the developed properties at the Northwest Quadrant and will preserve

and enhance the urban and suburban wildlife habitat. This palette is not intended to be exclusive, and appropriate additions will be made as warranted and approved by the NWQ-DRC. The palette is presented for appropriate zones to meet the above goals, maintain the visual integrity of the community, and smoothly transition from the built to the natural environment.

Table 6-2: NATIVE PLANT LIST + PROPOSED NE Botanic Name Deciduous Trees	EIGHBORHOOD LOCATIONS Common Name	Xeric Zone	Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Robina neomexicana	New Mexico Locust					•			
Fraxinus americana 'Autumn Purple'	Autumn Purple Ash		•						
Fraxinus nigra 'Fallgold'	Fallgold Ash		•						
Fraxinus pennsylvanica 'Marshall'	Marshall Ash			•	•				•
Fraxinus pennsylvanica 'Patmore'	Patmore Ash						•	•	
Faxinus pennsylvanica 'Summit'	Summit Ash					•			
Fraxinus pennsylvanica 'Urbanite'	Urbanite Ash						•	•	
Gleditsia triacanthos inermis 'Imperial'	Imperial Honeylocust		•						
Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust					•			
Gleditsia triacanthos inermis 'Skyline'	Skyline Honeylocust						•		
Gleditsia triacanthos inermis 'Sunburst'	Sunburst Honeylocust							•	
Populus x acuminata	Lanceleaf Cottonwood			•	•				•
Platanus acerfolia 'Bloodgood'	Bloodgood Sycamore		•						
Populus sargentii	Sargent Cottonwood			•	•				•
Salix amygdaloides	Peach Leaf Willow			•	•				•
Salix matsudana	Globe Willow		•						
Sophora japonica 'Regent'	Japanese Pagoda Tree		•						
Tilia Americana 'Wandell'	Legend American Linden					•			
Tilia tomentosa 'Sterling Silver'	Sterling Silver Linden						•		
Tilia cordata 'Glenleven' Tilia cordata 'Greenspire'	Glenleven Linden				-			•	
Ulmus parvifolia	Greenspire Linden Lacebark Elm		•			•			
Ulmus 'Frontier'	Frontier Elm					•	•		
Ulmus japonica x wilsoniana 'Morton'	Accolade Elm						•	•	
Evergreen Trees	Accolade Lilli				1	1			
Abies concolor	White Fir		•	•	•	•	•	•	•
Picea pungens	Colorado Spruce		•	•	•	•	•	•	•
Pinus aristata	Bristlecone Pine		•	•	•	•	•	•	•
Pinus cembra	Compact Swiss Stone Pine		•	•	•	•	•	•	•
Pinus contorta latifolia	Lodgepole Pine		•	•	•	•	•	•	•
Pinus edulis	Pinon Pine		•	•	•	•	•	•	•
Pinus flexilis	Limber Pine		•	•	•	•	•	•	•
Pinus leucodermis	Bosnian Pine		•	•	•	•	•	•	•
Pinus nigra	Austrian Pine		•	•	•	•	•	•	•
Pinus ponderosa	Ponderosa Pine		•	•	•	•	•	•	•
Pinus sylvestris	Scotch Pine		•	•	•	•	•	•	•



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Table 6-2: NATIVE PLANT LIST + PROPOSE Botanic Name Small / Ornamental Trees	ED NEIGHBORHOOD LOCATIONS (continued Continued Continued Continued Continued Common Name	Xeric Zone	Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Acer grandidentatum	Big Tooth Maple			•	•				•
Albizia julibrissin	Mimosa					•			
Crataegus spp.	Hawthron spp.		•	•	•	•	•	•	•
Chilopsis linearis spp.	Desert Willow spp.		•	•	•	•	•	•	•
Gymnocladus diocus	Kentucky Coffeetree			•	•	•	•	•	•
Forestiera neomexicana	New Mexico Privet		•	•	•	•	•	•	•
Koelreuteria paniculata	Goldenrain Tree		•						
Malus spp.	Apples spp.			•	•				•
Malus spp.	Flowering Crabapple spp.		•	•	•	•	•	•	•
Prunus spp.	Apricots spp.			•	•				•
Prunus spp.	Plums spp.			•	•				•
Pyrus spp.	Flowering Pear spp.		•			•	•	•	
Amelanchier alnifolia	Saskatoon Serviceberry			•	•				•
Celtis occidentalis	Common Hackberry			•	•				•
Cercis canadensis	Western Redbud		•	•	•	•	•	•	•
Prunus maackii	Amur Chokecherry			•	•				•
Populus tremuloides	Quaking Aspen			•	•	•	•	•	•
Deciduous Shrubs Amorpha spp. Artemisia frigida	Leadplant spp. Fringed Sage			•	•	•	•	•	•
Artemisia ludoviciana	Prairie Sage			•	•	•	•	•	•
Artemisia filifolia	Sand Sage			•	•	•	•	•	•
Artemisia tridentata	Big-toothed Sage			•	•	•	•	•	•
Atriplex canescens	Four-winged Saltbush			•	•	•	•	•	•
Amelanchier spp.	Serviceberry			•	•	•	•	•	•
Aronia spp.	Chokecherry			•	•	•	•	•	•
Buddleja spp.	Butterflybush		•	•	•	•	•	•	•
Caryopteris x clandonensis	Blue Mist Spirea		•	•	•	•	•	•	•
Chaenomeles speciosa	Flowering Quince			•	•	•	•	•	•
Cornus stolonifer	Red Osier Dogwood			•	•	•	•	•	•
Cowania mexican	Cliffrose			•	•	•	•	•	•
Crysothamnus nauseous	Chamisa			•	•	•	•	•	•
Fallugia paradoxa	Apache Plume		•	•	•	•	•	•	•
Euonymous alata	Four Winged Euonymous		•						
Hesperaloe parviflora	Red Flowering Yucca		•	•	•	•	•	•	•
Perovskia atriplicifolia	Russian Sage		•	•	•	•	•	•	•
Philadelphus spp.	Mock Orange spp.		•			•	•	•	•
Potentilla spp.	Shrubby Cinquefoil spp.		•	•	•	•	•	•	•
Prunus american	Wild Plum			•	•				•
Prunus besseyi	Western Sand Cherry			•	•	•	•	•	•
Quercus gambelii	Gambel Oak			•	•	-			•
Rhus trilobata	Three-leaf Sumac		•	•	•	•	•	•	•
Rhus coloradensis	Colorado Sumac			•	•	•	•	•	•
Rosa (Shrubs)	Shrub Rose		•	•	•	•	•	•	•
Spiraea spp.	Spirea		•	•	•	•	•	•	•
Symphoricarpos spp.	Snowberry		•	•	•	•	•	•	•
Syringa spp.	Lilac		•	•	•	•	•	•	•
Viburnum spp.	Viburnum spp.		•	•	•	•	•	•	•



Table 6-2: NATIVE PLANT LIST + PROPOSED NI Botanic Name Evergreen Shrubs	EIGHBORHOOD LOCATIONS (continued) Common Name	Xeric Zone	Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Berberis spp	Barberry		•			•	•	•	
Chamaebatieria millefolium	Fernbush		•	•	•	•	•	•	•
Cercocarpus intricatus	Littleleaf Mountain Mahogany			•	•	•	•	•	•
Cercocarpus ledifolius	Curl Leaf Mountain Mahogany			•	•	•	•	•	•
Cercocarpus montanus	Mountain Mahogany			•	•	•	•	•	•
Cotoneaster spp.	Cotoneaster		•			•	•	•	
Cytisus purgans Spanish Gold	Spanish Gold Broom		•			•	•	•	
Juniperus ssp	Juniper Varieties		•			•	•	•	
Mahonia a. compactum	Oregon Grape		•	•	•	•	•	•	•
Pinus mugo spp.	Mugo Pine spp.		•	†		•	•	•	
Santolina chamaecyparissus	Lavendar Cotton		•	•	•	•	•	•	•
Yucca glauca	Narrowleaf Yucca			•	•	•	•	•	•
Yucca baccata	Banana Yucca			•	•	•	•	•	•
Cacti (Local varieties)	Spines and thorns			•	•	•	•	•	•
,									
Perennials, Grasses and Groundcovers									
Achillea spp.	Yarrow spp.		•	•	•	•	•	•	•
Agastache cana	Giant Hyssop		•	•	•	•	•	•	•
Agastache pallidiflora	Pale Hyssop		•	•	•	•	•	•	•
Alcea spp.	Hollyhock spp.		•	•	•	•	•	•	•
Alkali sacaton	Sporobolus airoides		•	•	•	•	•	•	•
Calamagrostis acutiflora 'Karl Forester'	Karl Foerster Feather Reed Grass		•	•	•	•	•	•	•
Calylophus hartwegii	Sundrop		•	•	•	•	•	•	•
Cerastium tomentosum	Snow-in-Summer		•	•	•	•	•	•	•
Chrysanthemum maximum	Shasta Daisy		•	•	•	•	•	•	•
Coreopsis verticillatus	Threadleaf Coreposis		•	•	•	•	•	•	•
Echinacea spp.	Coneflower		•	•	•	•	•	•	•
Festuca glauca spp.	Ornamental Blue Fescue		•	•	•	•	•	•	•
Gaillarida spp.	Blanketflower spp.		•	•	•	•	•	•	•
Gaura lindheimer	Whirling Butterflies		•	•	•	•	•	•	•
Hemerocallis "Stella de Oro"	Stella de Oro Daylilies		•	•	•	•	•	•	•
Hemerocallis "Black Stella"	Black Eyed Stella Daylilies		•	•	•	•	•	•	•
Helianthemum nummularium	Sunrose		•	•	•	•	•	•	•
Helictotrichon sempervirens	Blue Avena		•	•	•	•	•	•	•
Iriodes germanic spp.	German Iris		•	•	•	•	•	•	•
Iriodes siberica spp.	Siberian Iris		•	•	•	•	•	•	•
Iriodes missouriensis	Western Blue Flag		•	•	•	•	•	•	•
Lavendula spp.	Lavender		•	•	•	•	•	•	•
Mahonia repens	Creeping Mahonia		•	•	•	•	•	•	•
Mirabilis spp.	Four O'Clock spp.		•	•	•	•	•	•	•
Miscanthus sinensis spp.	Maiden Hair Grass Spp.		•	•	•	•	•	•	•
Nepeta spp.	Catmint		•	•	•	•	•	•	•
Oenothera missouriensis	Missouri Evening Primrose		•	•	•	•	•	•	•
Oenothera berlandiera	New Mexico Primrose		•	•	•	•	•	•	•
Oenothera pallida	Pale Evening Primrose		•	•	•	•	•	•	•
Penstemon pinifolius	Pineleaf Penstemon		•	•	•	•	•	•	•
Penstemon strictus	Rocky Mountain Penstemon		•	•	•	•	•	•	•
Penstemon barbatus	Scarlet Bugler		•	•	•	•	•	•	•
Phlox subulata spp.	Creeping Phlox		•	•	•	•	•	•	•
Salvia spp.	Salvia		•	•	•	•	•	•	•
Stipa tennuissima	Threadgrass		•	•	•	•	•	•	•
Thymus spp.	Thyme spp.		•	•	•	•	•	•	•
Veronica spp.	Speedwell		•	•	•	•	•	•	•



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Table 6-2: NATIVE PLANT LIST + PROPOS Botanic Name Native Grasses and Wildflowers	ED NEIGHBORHOOD LOCATIONS (continued) Common Name	Xeric Zone	Main Street	Happy Valley	SW Neighborhood	NW Neighborhood	NE Neighborhood	Central Neighborhood	Community Park
Andropogon scoparium	Little Bluestem		•	•	•	•	•	•	•
Aster tanacetifolius	Tahoka Daisy		•	•	•	•	•	•	•
Aster biglovii	Purple Aster		•	•	•	•	•	•	•
Baileya multiradiata	Baileya multiradiata		•	•	•	•	•	•	•
Berlandiera lyrata	Chocolate Flower		•	•	•	•	•	•	•
Bouteloua curtipendula	Sideoats Grama		•	•	•	•	•	•	•
Bouteloua gracilis	Blue Grama		•	•	•	•	•	•	•
Buchloe dactyloides	Buffalo Grass		•	•	•	•	•	•	•
Castilleja integra	Indian Paintbrush		•	•	•	•	•	•	•
Ceratoides lanata	Winterfat		•	•	•	•	•	•	•
Coreopsis lanceolata	Lanceleaf Coreopsis		•	•	•	•	•	•	•
Coreopsis tinctoria	Plains Coreopsis		•	•	•	•	•	•	•
Gilia aggregata	Scarlet Gilia		•	•	•	•	•	•	•
Gutierrezia sarothrae	Snakeweed		•	•	•	•	•	•	•
Helianthus nuttallii	New Mexico Sunflower		•	•	•	•	•	•	•
Hilaria jamesii	Galleta		•	•	•	•	•	•	•
Hymenoxys argentea	Perky Sue		•	•	•	•	•	•	•
Lepimedium latifolium	Mounding Peppergrass		•	•	•	•	•	•	•
Liatris spicata	Spiked Gayfeather		•	•	•	•	•	•	•
Lupinus sparsiflorus	Arroyo Lupine		•	•	•	•	•	•	•
Mirabilis multiflora	Desert Four O'clock		•	•	•	•	•	•	•
Monarda mentaefolia	Beebalm		•	•	•	•	•	•	•
Oenothera pallida	Pale Evening Primrose		•	•	•	•	•	•	•
Oenothera caespitosa	White-Tuffed Evening Primrose		•	•	•	•	•	•	•
Oryzopsis hymenoides	Indian Ricegrass		•	•	•	•	•	•	•
Penstemon	(Many local species)		•	•	•	•	•	•	•
Petalostemum purpureum	Purple Prairie Clover		•	•	•	•	•	•	•
Phlox nana	Santa Fe Phlox		•	•	•	•	•	•	•
Psilostrophe tagetina	Paperflower		•	•	•	•	•	•	•
Ratibida columnifera	Prarie Coneflower		•	•	•	•	•	•	•
Ratibida columnifera	Mexican Hat		•	•	•	•	•	•	•
Santolina chamaecyparissus	Santolina		•	•	•	•	•	•	•
Sphaeralcea a. lobata	Lobeleaf Globemallow		•	•	•	•	•	•	•
Sphaeralcea grossulariaefolia	Greeping Globemallow		•	•	•	•	•	•	•
Verbena bipifinnata	Dakota Verbena		•	•	•	•	•	•	•
Verbena wrightii	Purple Verbena		•	•	•	•	•	•	•



Plant species that are undesirable because they are considered noxious or invasive species, or are visually incompatible with the site development principals of the Northwest Quadrant, will be prohibited. Following is a list of prohibited plants within the Northwest Quadrant.

Table 6-3: PROHIBITED PLANT LIST

Botanic Name	Common Name
Prohibited Plant List	
Eleagnus spp.	Russian Olive
Ulmus siberica spp.	Siberian Elm
Cedrus Tamarix spp.	Salt Cedar
Chamaecyprus spp.	Cypress sp.
Morus spp.	Mulberry spp.

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